

Influence of time of shelling and seed size on yield, quality and nutrient uptake in groundnut (*Arachis hypogaea*)

C. R. DETROJA, S. G. SADARIA, V. D. KHANPARA, B. B. KANERIA AND D. D. MALAVIA

Department of Agronomy, Gujarat Agricultural University, campus Junagadh 362 001

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An investigation was carried out during the rainy season (*kharif*) of 1991 at Junagadh, to study the effect of shelling time on yield, quality and nutrient uptake in groundnut (*Arachis hypogaea* L.). The soil was clayey in texture having medium status of total nitrogen, available phosphorus and available potash. The treatments consisting of 5 times of shelling and 3 seed sizes (Table 1) were laid out in factorial randomized block design replicated 4 times. Recommended dose of N and P_2O_5 was applied. The crop was sown on 15 July with inter-row spacing of 45 cm using groundnut cultivar 'Gujarat Groundnut 2' (bunch type).

Groundnut pods shelled at different times did not influence the pod yield haulm yield, oil content, oil yield, protein content and uptake of N, P_2O_5 and K_2O (Table 1). Maximum net realization of Rs 2,287/ha was accrued from shelled treatments and sown on the same day.

Crop sown from large seed outyielded the rest of seed sizes, giving the highest pod yield (1,132 kg/ha) and haulm yield (2,046 kg/ha). These findings are in agreement with those of Knauff *et al.* (1990) and Vindhyavarman *et al.* (1990). The different

seed sizes did not exert their significant influence on oil and protein content of kernel. Similar effects were also reported by Dhillon *et al.* (1981). However, oil yield (kg/ha) was increased significantly with increase in seed size. This might be due to higher pod yield in large seed. The uptake of N, P_2O_5 and K_2O increased significantly with increase in seed size, which was only due to increase pod and haulm yields from large seed. The economics of different seed sizes revealed that large seed was found more profitable over rest of the seed sizes.

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Table 1. Effect of different shelling time and seed size on yield, quality, nutrient uptake and economics of groundnut

Treatment	Yield (kg/ha)		Oil content (%)	Oil yield (kg/ha)	Protein content (%)	Uptake of nutrient (kg/ha)			Net realization (Rs/ha)
	Pod	Haulm				N	P ₂ O ₅	K ₂ O	
Time of shelling									
Pod shelled at 66 DBS	987	1,875	48.08	336	20.00	73.49	2.80	15.42	2,171
Pod shelled at 54 DBS	970	1,786	48.14	328	19.07	69.30	2.78	14.76	1,955
Pod shelled at 42 DBS	992	1,800	48.12	331	18.85	71.88	2.84	16.52	2,202
Pod shelled at 30 DBS	960	1,777	47.45	320	19.43	71.61	2.80	15.36	1,837
Pod shelled on the same day of sowing	997	1,871	48.15	340	18.81	73.08	2.77	15.17	2,287
CD (P = 0.05)	NS	NS	NS	NS	NS	NS	NS	NS	
Seed size									
Large seed (retained on 8 mm sieve)	1,132	2,046	48.42	389	19.49	82.51	3.11	17.10	2,463
Composite seed (taken from bulk)	970	1,859	47.82	324	19.05	72.04	2.76	15.43	2,205
Small seed (passed through 6 mm sieve)	841	1,561	47.90	201	19.16	61.06	2.47	13.81	1,602
CD (P = 0.05)	69	81	NS	29	NS	4.73	0.14	0.71	